

**SUBSTITUTE CLAIMS****ART 34 AMDT**

1. A film comprising a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about 30 wt% to about 99.5 wt% ethylene, wherein:

(1) the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula:  $C_f-L-O-CO-CR=CH_2$ , wherein:

(i)  $C_f$  is a fluorinated aliphatic group having at least 4 carbon atoms;

(ii) L is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii) R is H or  $CH_3$ .

2. A fiber comprising a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about 30 wt% to about 99.5 wt% ethylene, wherein:

(1) the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula:  $C_f-L-O-CO-CR=CH_2$ , wherein:

(i)  $C_f$  is a fluorinated aliphatic group having at least 4 carbon atoms;

AMENDED SHEET  
IPEA/EP

**ART 34 AMDT**

(ii) L is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii) R is H or CH<sub>3</sub>; and wherein the fiber is obtained by a melt-blown process.

3. An article having a composite or multilayer structure comprising an outer layer comprising: a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about 30 wt% to about 99.5 wt% ethylene, wherein:

(1) the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula: Cf-L-O-CO-CR=CH<sub>2</sub>, wherein:

(i) Cf is a fluorinated aliphatic group having at least 4 carbon atoms;

(ii) L is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii) R is H or CH<sub>3</sub>.

4. A microporous membrane comprising a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC

**AMENDED SHEET  
IPEA/EP**

## ART 34 AMDT

comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about 30 wt% to about 99.5 wt% ethylene, wherein:

(1) the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula:  $Cf-L-O-CO-CR=CH_2$ , wherein:

(i)  $Cf$  is a fluorinated aliphatic group having at least 4 carbon atoms;

(ii)  $L$  is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii)  $R$  is H or  $CH_3$ ; and wherein the membrane is useful as protection against permeation of liquids through the membrane.

5. A flash spun plexifilamentary product comprising a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about 30 wt% to about 99.5 wt% ethylene, wherein:

(1) the fluorine-containing comonomers are fluorinated acrylate or methacrylate esters of the general formula:  $Cf-L-O-CO-CR=CH_2$ , wherein:

(i)  $Cf$  is a fluorinated aliphatic group having at least 4 carbon atoms;

(ii)  $L$  is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide,

AMENDED SHEET  
IPEA/EP

**ART 34 AMDT**

carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii) R is H or CH<sub>3</sub>.

6. A melt spun fibrous article comprising a fluorine containing ethylene copolymer (FCEC) obtained by the copolymerization of ethylene with suitable fluorine-containing comonomer compounds, wherein the FCEC comprises from about 0.5 wt% to about 40 wt% of a fluorine-containing comonomer compound and from about ~~fluorinated alkylene~~ --- general formula: Cf-L-O-CO-CR=CH<sub>2</sub>, wherein:

(i) Cf is a fluorinated aliphatic group having at least 4 carbon atoms;

(ii) L is a linking group that connects the fluorinated aliphatic group with the (meth)acrylate group, selected from the group consisting of arylene, arylalkylene, sulfonyl, sulfoxy, sulfonamide, carboxyamino, carbonyloxy, urethylene, and combinations thereof ; and

(iii) R is H or CH<sub>3</sub>; and wherein the fibrous products are obtained by melt spinning or multicomponent fiber spinning a FCEC or a blend thereof.